

## Vales Point Power Station Monthly Environmental Data Summary



LICENCE NO	761 <a href="http://www.epa.nsw.gov.au/prpoeoapp/">http://www.epa.nsw.gov.au/prpoeoapp/</a>
LICENCE HOLDER	SUNSET POWER INTERNATIONAL PTY LTD
REPORTING PERIOD	October 2018
ADDRESS	VALES POINT ROAD, MANNERING PARK NSW

POINT 1 Cooling water outlet at Wyee Bay, marked and shown as "VPOC" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	97% limit	Exceedance (yes/no)	Comments
Oct-18	Chlorine (free residual)	milligrams per litre	Monthly	1	11/10/2018	0.04	0.04	0.04	0.2		No	
Oct-18	Temperature	degrees celsius	Continuous	100%	Oct-18	21.0	28.2	33.4	37.5	35	No	
Oct-18	Oil and Grease	Visible	Continuous	100%	Oct-18	NIL	NIL	NIL				No visible oil or grease detected during October 2018

POINT 2 Discharge from the ash water recycle system to the cooling water outlet canal, marked and shown as "VPADB" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Oct-18	Ammonia	milligrams per litre	Quarterly	1	11/10/2018	0.09	0.09	0.09				
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018	<0.00021	<0.00021	<0.00021				
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018	<0.001	<0.001	<0.001				
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018	<0.0002	<0.0002	<0.0002				
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018	0.0119	0.0119	0.0119				
Oct-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	11/10/2018	<0.01	<0.01	<0.01				
Oct-18	Nitrogen (total)	milligrams per litre	Quarterly	1	11/10/2018	<0.05	<0.05	<0.05				
Oct-18	pH	pH	Monthly	1	11/10/2018	9.03	9.03	9.03	6.5 - 9.5		No	
Oct-18	Phosphorus (total)	milligrams per litre	Monthly	1	11/10/2018	0.1	0.1	0.1				
Oct-18	Reactive Phosphorus	milligrams per litre	Monthly	1	11/10/2018	<0.01	<0.01	<0.01				
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018	0.0408	0.0408	0.0408				
Oct-18	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly	1	11/10/2018	<0.05	<0.05	<0.05				
Oct-18	Total Suspended Solids	milligrams per litre	Fortnightly	4	Oct-18	6	96	140	50	Yes	*See note in general comments.	
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018	<0.005	<0.005	<0.005				

POINT 4 Seepage from ash dam rehabilitated area, marked and shown as "VPADS" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Oct-18	Ammonia	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Monthly	1	11/10/2018						** Seepage water sampled is captured and pumped back to the ash dam. There was no licence 'discharge to waters' (i.e. to Manning Bay) during October 2018.	
Oct-18	Nitrogen (total)	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	pH	pH	Monthly	1	11/10/2018							
Oct-18	Phosphorus (total)	milligrams per litre	Monthly	1	11/10/2018							
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Total Kjeldahl Nitrogen	milligrams per litre	Quarterly	1	11/10/2018							
Oct-18	Total Suspended Solids	milligrams per litre	Monthly	1	11/10/2018				50	No		
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018							

POINT 18 Overboarding of Ash Dam, marked and shown as "VPADD" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Oct-18	Ammonia	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Cadmium	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Copper	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Lead	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Manganese	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Nitrate + nitrite (oxidised nitrogen)	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Nitrogen (total)	milligrams per litre	Daily for discharge >2 hrs								No discharge from EPA Point 18 during October 2018	
Oct-18	pH	pH	Daily for discharge >2 hrs						6.5 - 9.0			
Oct-18	Phosphorus (total)	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Selenium	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Total Kjeldahl Nitrogen	milligrams per litre	Daily for discharge >2 hrs									
Oct-18	Total Suspended Solids	milligrams per litre	Daily for discharge >2 hrs						50			
Oct-18	Zinc	milligrams per litre	Daily for discharge >2 hrs									

POINT 19 Groundwater bore, marked and shown as "VPGM/D3" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Oct-18	Arsenic	milligrams per litre	Quarterly	1	11/10/2018	0.011	0.011	0.011				
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018	<0.00021	<0.00021	<0.00021				
Oct-18	Calcium	milligrams per litre	Quarterly	1	11/10/2018	830	830	830				
Oct-18	Chromium	milligrams per litre	Quarterly	1	11/10/2018	0.0014	0.0014	0.0014				
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018	0.006	0.006	0.006				
Oct-18	Electrical conductivity	microsiemens per centimetre	Quarterly	1	11/10/2018	40000	40000	40000				
Oct-18	Iron	milligrams per litre	Quarterly	1	11/10/2018	57.3	57.3	57.3				
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018	0.0033	0.0033	0.0033			(next quarterly sample scheduled for January 2018)	
Oct-18	Magnesium	milligrams per litre	Quarterly	1	11/10/2018	838	838	838				
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018	4.13	4.13	4.13				
Oct-18	Nickel	milligrams per litre	Quarterly	1	11/10/2018	0.0201	0.0201	0.0201				
Oct-18	pH	pH	Quarterly	1	11/10/2018	5.74	5.74	5.74				
Oct-18	Potassium	milligrams per litre	Quarterly	1	11/10/2018	98	98	98				
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018	<0.0021	<0.0021	<0.0021				
Oct-18	Sodium	milligrams per litre	Quarterly	1	11/10/2018	6120	6120	6120				
Oct-18	Standing Water Level	metres	Quarterly	1	11/10/2018	3.8	3.8	3.8				
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018	0.018	0.018	0.018				

POINT 20 Groundwater bore, marked and shown as "VPGM/D5" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Oct-18	Arsenic	milligrams per litre	Quarterly	1	11/10/2018	0.0012	0.0012	0.0012				
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018	0.00006	0.00006	0.00006				
Oct-18	Calcium	milligrams per litre	Quarterly	1	11/10/2018	18	18	18				
Oct-18	Chromium	milligrams per litre	Quarterly	1	11/10/2018	0.0014	0.0014	0.0014				
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018	0.0189	0.0189	0.0189				
Oct-18	Electrical conductivity	microsiemens per centimetre	Quarterly	1	11/10/2018	418	418	418				
Oct-18	Iron	milligrams per litre	Quarterly	1	11/10/2018	0.639	0.639	0.639				
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018	0.0072	0.0072	0.0072				
Oct-18	Magnesium	milligrams per litre	Quarterly	1	11/10/2018	7	7	7			(next quarterly sample scheduled for January 2018)	
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018	0.0258	0.0258	0.0258				
Oct-18	Nickel	milligrams per litre	Quarterly	1	11/10/2018	0.0025	0.0025	0.0025				
Oct-18	pH	pH	Quarterly	1	11/10/2018	6.15	6.15	6.15				
Oct-18	Potassium	milligrams per litre	Quarterly	2	11/10/2018	2	2	2				
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018	0.0006	0.0006	0.0006				
Oct-18	Sodium	milligrams per litre	Quarterly	1	11/10/2018	48	48	48				
Oct-18	Standing Water Level	metres	Quarterly	1	11/10/2018	0.53	0.53	0.53				
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018	0.689	0.689	0.689				

POINT 21 Groundwater bore, marked and shown as "VPGM/D6" on the Plan (VX837351, 30.06.2015, DOC15/381265).												
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments	
Oct-18	Arsenic	milligrams per litre	Quarterly	1	11/10/2018	0.0002	0.0002	0.0002				
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018	<0.00005	<0.00005	<0.00005				
Oct-18	Calcium	milligrams per litre	Quarterly	1	11/10/2018	4	4	4				
Oct-18	Chromium	milligrams per litre	Quarterly	1	11/10/2018	0.0008	0.0008	0.0008				
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018	0.003	0.003	0.003				
Oct-18	Electrical conductivity	microsiemens per centimetre	Quarterly	1	11/10/2018	340	340	340				
Oct-18	Iron	milligrams per litre	Quarterly	1	11/10/2018	0.117	0.117	0.117				
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018	0.0008	0.0008	0.0008			(next quarterly sample scheduled for January 2018)	
Oct-18	Magnesium	milligrams per litre	Quarterly	4	11/10/2018	4	4	4				
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018	0.0047	0.0047	0.0047				
Oct-18	Nickel	milligrams per litre	Quarterly	1	11/10/2018	0.0012	0.0012	0.0012				
Oct-18	pH	pH	Quarterly	1	11/10/2018	5.81	5.81	5.81				
Oct-18	Potassium	milligrams per litre	Quarterly	1	11/10/2018	2	2	2				
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018	0.0002	0.0002	0.0002				
Oct-18	Sodium	milligrams per litre	Quarterly	1	11/10/2018	36	36	36				
Oct-18	Standing Water Level	metres	Quarterly	1	11/10/2018	0.34	0.34	0.34				
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018	0.013	0.013	0.013				

POINT 22 Groundwater bore, marked and shown as "VPGM/D8" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Oct-18	Arsenic	milligrams per litre	Quarterly	1	11/10/2018	0.0099	0.0099	0.0099			
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018	0.00031	0.00031	0.00031			
Oct-18	Calcium	milligrams per litre	Quarterly	1	11/10/2018	502	502	502			
Oct-18	Chromium	milligrams per litre	Quarterly	1	11/10/2018	0.0095	0.0095	0.0095			
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018	0.0096	0.0096	0.0096			
Oct-18	Electrical conductivity	microsiemens per centimetre	Quarterly	1	11/10/2018	60200	60200	60200			
Oct-18	Iron	milligrams per litre	Quarterly	1	11/10/2018	58	58	58			
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018	0.0095	0.0095	0.0095			
Oct-18	Magnesium	milligrams per litre	Quarterly	1	11/10/2018	1310	1310	1310			(next quarterly sample scheduled for January 2018)
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018	0.405	0.405	0.405			
Oct-18	Nickel	milligrams per litre	Quarterly	1	11/10/2018	0.0093	0.0093	0.0093			
Oct-18	pH	pH	Quarterly	1	11/10/2018	6.79	6.79	6.79			
Oct-18	Potassium	milligrams per litre	Quarterly	1	11/10/2018	317	317	317			
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018	0.0026	0.0026	0.0026			
Oct-18	Sodium	milligrams per litre	Quarterly	1	11/10/2018	10400	10400	10400			
Oct-18	Standing Water Level	metres	Quarterly	1	11/10/2018	0.01	0.01	0.01			
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018	0.102	0.102	0.102			

POINT 23 Groundwater bore, marked and shown as "VPGM/D10" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Oct-18	Arsenic	milligrams per litre	Quarterly	1	11/10/2018	0.0057	0.0057	0.0057			
Oct-18	Cadmium	milligrams per litre	Quarterly	1	11/10/2018	0.00011	0.00011	0.00011			
Oct-18	Calcium	milligrams per litre	Quarterly	1	11/10/2018	2	2	2			
Oct-18	Chromium	milligrams per litre	Quarterly	1	11/10/2018	0.0048	0.0048	0.0048			
Oct-18	Copper	milligrams per litre	Quarterly	1	11/10/2018	0.0086	0.0086	0.0086			
Oct-18	Electrical conductivity	microsiemens per centimetre	Quarterly	1	11/10/2018	844	844	844			
Oct-18	Iron	milligrams per litre	Quarterly	1	11/10/2018	1.05	1.05	1.05			
Oct-18	Lead	milligrams per litre	Quarterly	1	11/10/2018	0.0052	0.0052	0.0052			
Oct-18	Magnesium	milligrams per litre	Quarterly	1	11/10/2018	12	12	12			(next quarterly sample scheduled for January 2018)
Oct-18	Manganese	milligrams per litre	Quarterly	1	11/10/2018	0.074	0.074	0.074			
Oct-18	Nickel	milligrams per litre	Quarterly	1	11/10/2018	0.0089	0.0089	0.0089			
Oct-18	pH	pH	Quarterly	1	11/10/2018	5.09	5.09	5.09			
Oct-18	Potassium	milligrams per litre	Quarterly	1	11/10/2018	2	2	2			
Oct-18	Selenium	milligrams per litre	Quarterly	1	11/10/2018	0.0003	0.0003	0.0003			
Oct-18	Sodium	milligrams per litre	Quarterly	1	11/10/2018	130	130	130			
Oct-18	Standing Water Level	metres	Quarterly	1	11/10/2018	-0.19	-0.19	-0.19			
Oct-18	Zinc	milligrams per litre	Quarterly	1	11/10/2018	0.046	0.046	0.046			

POINT 11 Stack serving Boiler Unit No. 5, marked and shown as "11" on the Plan (VX837351, 30.06.2015, DOC15/381265).											
Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Oct-18	Cadmium	milligrams per cubic metre	Yearly						1	No	Annual stack gas testing to be undertaken before 1 July 2019
Oct-18	Chlorine	milligrams per cubic metre	Yearly						200	No	
Oct-18	Copper	milligrams per cubic metre	Yearly								
Oct-18	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Oct-18	Mercury	milligrams per cubic metre	Yearly						1	No	
Oct-18	Moisture	percent	Yearly								
Oct-18	Molecular weight of stack gases	grams per gram mole	Yearly								
Oct-18	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	Oct-18	442	568	640	1500	No	
Oct-18	Sulfuric acid mist and sulfur trioxide (as SO3)	milligrams per cubic metre	Yearly						100	No	
Oct-18	Sulphur dioxide	parts per million	Continuous	100%	Oct-18	242	280	316	600	No	
Oct-18	Temperature	degrees Celsius	Yearly								
Oct-18	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Oct-18	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Oct-18	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Oct-18	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Oct-18	15.3	22.9	53.9			
Oct-18	Velocity	metres per second	Yearly								
Oct-18	Volatile organic compounds	parts per million	Yearly								
Oct-18	Volumetric flowrate	cubic metres per second	Yearly								

**POINT 12** Stack serving Boiler Unit No. 6, marked and shown as "12" on the Plan (VX837351, 30.06.2015, DOC15/381265).

Month	Pollutant	Unit of Measure	Sample/Measurement Frequency	Samples Collected & Analysed	Date Sampled	Lowest Sample Value	Mean of Samples	Highest Sample Value	EPL Limit	Exceedance (yes/no)	Comments
Oct-18	Cadmium	milligrams per cubic metre	Yearly						1	No	Annual stack gas testing to be undertaken before 1 July 2019
Oct-18	Chlorine	milligrams per cubic metre	Yearly						200	No	
Oct-18	Copper	milligrams per cubic metre	Yearly								
Oct-18	Hydrogen chloride	milligrams per cubic metre	Yearly						100	No	
Oct-18	Mercury	milligrams per cubic metre	Yearly						1	No	
Oct-18	Moisture	percent	Yearly								
Oct-18	Molecular weight of stack gases	grams per gram mole	Yearly								
Oct-18	Nitrogen Oxides	milligrams per cubic metre	Continuous	100%	Oct-18	557	969	1153	1500	No	
Oct-18	Sulfuric acid mist and sulfur trioxide (as SO <sub>3</sub> )	milligrams per cubic metre	Yearly						100	No	
Oct-18	Sulphur dioxide	parts per million	Continuous	100%	Oct-18	123	251	329	600	No	
Oct-18	Temperature	degrees Celsius	Yearly								
Oct-18	Total Fluoride	milligrams per cubic metre	Yearly						50	No	
Oct-18	Total Solid Particles	milligrams per cubic metre	Yearly						100	No	
Oct-18	Type 1 and Type 2 substances in aggregate	milligrams per cubic metre	Yearly						5	No	
Oct-18	Undifferentiated Particulates	milligrams per cubic metre	Continuous	100%	Oct-18	27.0	43.6	63.3			
Oct-18	Velocity	metres per second	Yearly								
Oct-18	Volatile organic compounds	parts per million	Yearly								
Oct-18	Volumetric flowrate	cubic metres per second	Yearly								

**GENERAL COMMENTS**

Unit 5 (Point 11) was returned to service on 19th October 2018.

\*The concentration limit for TSS was exceeded at Point 2 on three occasions during October 2018 following heavy rainfall. At the time of sampling the background TSS levels measured in Lake Macquarie were also above 50mg/L. The LDP2 discharge to the outlet canal was closed as soon as test results were provided to Delta which indicated that TSS levels were >50mg/L. Discharge from LDP2 recommenced when test results confirmed that TSS had returned to a level below the concentration limit of 50mg/L (6mg/L on 22/10/2018).